



## SEQUENCE LISTING

<110> Murphy, Dennis  
Reid, John

<120> ALPHA GALACTOSIDASES AND METHODS FOR  
MAKING AND USING THEM (Amended)

<130> 09010-004005

<140> US 09/886,400  
<141> 2001-06-20

<150> US 09/407,806  
<151> 1999-09-28

<150> US 08/613,220  
<151> 1996-03-08

<160> 4

<170> FastSEQ for Windows Version 4.0

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<211> 52  
<212> DNA  
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<220>  
<223> synthetically generated oligonucleotide

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<211> 31  
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<213> Artificial Sequence

<220>  
<223> synthetically generated oligonucleotide

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<210> 3  
<211> 1095  
<212> DNA  
<213> Thermococcus alcaliphilus

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ccaaaggctca tagagaaggc atacatccca gtcatcgaga cactgattaa agaagaaaatt 120  
ccttttggc tcaacataac gggctatacc ttaaagttcc tcccgaaagg tattatagac 180  
ctcgtaaag gggcatcgc gagtgacctg atagagataa tcggaaacgag ctacacgcac 240  
gcaatactcc ccctcctgcc gcttagcaga gtagaagcagc aagttcagag agatagggaa 300

gttaaggaag	agctcttcga	ggtttctcca	aaggattct	ggctgccaga	gctgcctat	360
gaccgataa	tccctgccat	actgaaggac	aacggttatg	agtatctatt	cgccgacggg	420
gaggcgatgc	tttctcagc	tcatctcaac	tccggcataa	agccaattaa	accgctctat	480
ccacaccta	taaaggccca	aaggaaaag	cgctttaggt	acatcagcta	tcccttgg	540
ctcagggagc	ttaggaagc	gataaagctc	gttttgaag	gtaagtaac	gctaaaggca	600
gtcaaagaca	tcgaagccgt	acccgttgg	gtggccgtga	acacggctgt	aatgctcggc	660
atcggaaaggc	ttcctttat	gaatcctaag	aaagtggcga	gctggataga	ggacacaaggac	720
aacattttc	tatacggcac	cgatataagag	ttcattggct	atagggacat	tgcaggctac	780
agaatgaatg	ttgagggatt	attagaggtt	atagacgagc	tcaactcgg	actgtgcctt	840
ccctcagagc	tgaagcacag	tggaagggag	ctctacttac	ggacttcgag	ttgggcacca	900
gataagagct	tgaggatatg	gagagaggac	gaagggaaacg	caagacttaa	tatgctgtcc	960
tacaatatga	ggggcgaact	cgcctttta	gccgagaaca	gcatgcaag	gggatgggag	1020
cccctccctg	agaggaggct	ggatgcctc	cggcgatata	ataacgattt	gaggggtgaa	1080
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&lt;210&gt; 4

&lt;211&gt; 364

&lt;212&gt; PRT

&lt;213&gt; Thermococcus alcaliphilus

&lt;400&gt; 4

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Lys	Ser	Glu	Ile	Pro	Lys	Val	Ile	Glu	Lys	Ala	Tyr	Ile	Pro	Val	Ile	
									20					25	30	
Glu	Thr	Leu	Ile	Lys	Glu	Glu	Ile	Pro	Phe	Gly	Leu	Asn	Ile	Thr	Gly	
									35					40	45	
Tyr	Thr	Leu	Lys	Phe	Leu	Pro	Lys	Asp	Ile	Ile	Asp	Leu	Val	Lys	Gly	
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Gly	Ile	Ala	Ser	Asp	Leu	Ile	Glu	Ile	Ile	Gly	Thr	Ser	Tyr	Thr	His	
									65					70	75	80
Ala	Ile	Leu	Pro	Leu	Leu	Pro	Leu	Ser	Arg	Val	Glu	Ala	Gln	Val	Gln	
									85					90	95	
Arg	Asp	Arg	Glu	Val	Lys	Glu	Glu	Leu	Phe	Glu	Val	Ser	Pro	Lys	Gly	
									100					105	110	
Phe	Trp	Leu	Pro	Glu	Leu	Ala	Tyr	Asp	Pro	Ile	Ile	Pro	Ala	Ile	Leu	
									115					120	125	
Lys	Asp	Asn	Gly	Tyr	Glu	Tyr	Leu	Phe	Ala	Asp	Gly	Glu	Ala	Met	Leu	
									130					135	140	
Phe	Ser	Ala	His	Leu	Asn	Ser	Ala	Ile	Lys	Pro	Ile	Lys	Pro	Leu	Tyr	
									145					150	155	160
Pro	His	Leu	Ile	Lys	Ala	Gln	Arg	Glu	Lys	Arg	Phe	Arg	Tyr	Ile	Ser	
									165					170	175	
Tyr	Leu	Leu	Gly	Leu	Arg	Glu	Leu	Arg	Lys	Ala	Ile	Lys	Leu	Val	Phe	
									180					185	190	
Glu	Gly	Lys	Val	Thr	Leu	Lys	Ala	Val	Lys	Asp	Ile	Glu	Ala	Val	Pro	
									195					200	205	
Val	Trp	Val	Ala	Val	Asn	Thr	Ala	Val	Met	Leu	Gly	Ile	Gly	Arg	Leu	
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Pro	Leu	Met	Asn	Pro	Lys	Lys	Val	Ala	Ser	Trp	Ile	Glu	Asp	Lys	Asp	
									225					230	235	240
Asn	Ile	Leu	Leu	Tyr	Gly	Thr	Asp	Ile	Glu	Phe	Ile	Gly	Tyr	Arg	Asp	
									245					250	255	
Ile	Ala	Gly	Tyr	Arg	Met	Ser	Val	Glu	Gly	Leu	Leu	Glu	Val	Ile	Asp	
									260					265	270	
Glu	Leu	Asn	Ser	Glu	Leu	Cys	Leu	Pro	Ser	Glu	Leu	Lys	His	Ser	Gly	
									275					280	285	

Arg Glu Leu Tyr Leu Arg Thr Ser Ser Trp Ala Pro Asp Lys Ser Leu  
290 295 300  
Arg Ile Trp Arg Glu Asp Glu Gly Asn Ala Arg Leu Asn Met Leu Ser  
305 310 315 320  
Tyr Asn Met Arg Gly Glu Leu Ala Phe Leu Ala Glu Asn Ser Asp Ala  
325 330 335  
Arg Gly Trp Glu Pro Leu Pro Glu Arg Arg Leu Asp Ala Phe Arg Ala  
340 345 350  
Ile Tyr Asn Asp Trp Arg Gly Glu Asn Gly Glu Pro  
355 360